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(71) Applicant: **STRYKER CORPORATION**
Kalamazoo, Michigan 49003-4085 (US)

(72) Inventors:

- **Kuberasampath, Thangavel**
Holliston, MA 01748 (US)
- **Oppermann, Hermann**
Medway, Massachusetts 02053 (US)
- **Rueger, David C.**
West Roxbury, Massachusetts 02132 (US)
- **Ozkaynak, Engin**
Milford, Massachusetts 01757 (US)

(74) Representative: **Hutchins, Michael Richard et al**
FRY HEATH & SPENCE
The Old College
53 High Street
Horley Surrey RH6 7BN (GB)

(54) **Biosynthetic osteogenic proteins and osteogenic devices containing them**

(57) Disclosed are 1) osteogenic devices comprising a matrix containing osteogenic protein and methods of inducing endochondral bone growth and cartilage in mammals using the devices; 2) amino acid sequence data, amino acid composition; solubility properties.

structural features, homologies and various other data characterizing osteogenic proteins, 3) methods of producing osteogenic proteins using recombinant DNA technology, and 4) osteogenically and chondrogenically active synthetic protein constructs.

FIG. 1-1															
	COP1	COP5	DPP	OP1	CBMP2	CBMP3	beta-	TGF-	MIS	alpha:	consensus				
					a)	b) :	(bov)	Inhibin	beta :	Inhib:	choices				
	COP3	COP7:				a)	b)		1 2 3 :						
	COP4														
		:	C	C	C	C	C	C	C	:	C	C	:	c	
		:	K	R	K	K	R	A	C	:	A	H	:	k,r	
<P	P	P	P	P	R	R	R	R	K	:	V	L	:	k,r	
<N	G	N	G	N	N	H	H	E	H	:	R	V	:	h,k,r,q	
<G	N	G	G	G	G	H	S	Y	Q	:	P	F	:	p,s,e,u	
L	L	L	L	L	L	L	L	L	F	:	L	L	:	l	
Y	Y	Y	Y	Y	Y	Y	Y	K	F	:	Y	S	:	y,f	
V	V	V	V	V	V	V	V	V	I	:	V	I	:	v,i	
D	D	D	D	D	D	D	D	D	S	:	D	S	:	d,e,s	
F	F	F	F	F	F	F	F	F	F	:	L	F	:	f	
Q	Q	S	S	S	K	S	S	A	K	:	R	Q	:	k,r,s	
R	R	:	:	:	:	:	:	:	R	:	Q	:	:		
D	D	D	D	D	D	D	D	D	D	:	A	E	:	d	
V	V	V	V	V	V	L	V	I	I	:	L	R	:	v,l,i	
G	G	G	G	G	G	G	G	G	G	:	S	G	:	g	
W	W	W	W	W	W	W	W	W	W	:	:	W	:	w	
D	D	D	D	N	Q	D	Q	N	S	:	E	:	:	q,n,d,e,s	
D	D	D	D	D	D	D	D	D	E	:	-	R	:	d,e,n	
W	W	W	W	W	W	W	W	W	W	:	:	W	:	w	
I	I	I	I	I	V	I	I	I	I	:	I	V	:	i,v	
I	V	V	V	V	I	V	I	I	I	:	H	L	:	i,v	
A	A	A	A	A	A	A	A	S	A	:	E	I	:	a,s	
P	P	P	P	P	P	P	P	P	P	:	P	P	:	p	
V	P	P	P	P	P	L	E	P	S	:	T	K	:	e,q,p*	
D	G	G	G	G	G	G	G	S	G	:	G	T	:	g,s	
F	Y	Y	Y	Y	Y	Y	Y	F	Y	:	Y	F	:	y,f	
D	Q	Q	Q	H	M	D	V	H	D	:	H	N	:	h,d,n,q,y*	
A	A	A	A	A	A	A	A	A	A	:	A	F	:	a	

FIG. 1-2

[illegible]

FIG. 1-3

[illegible]

FIG. 1-4

K	K	K	K	K	:	N	T	N	K	:	N	N	N	P	:	I	G	:	n,k
V	V	V	V	V	:	V	V	V	V	:	V	I	I	K	:	S	G	:	v,i
V	V	V	V	V	:	V	V	I	V	:	V	I	V	V	I	V	A	:	v,i
L	L	L	L	L	:	L	L	L	L	:	L	K	K	E	:	H	S	:	l
K	K	K	K	K	:	R	K	K	K	:	K	K	R	Q	:	H	F	:	k,r
N	N	N	N	N	:	H	N	K	N	:	V	D	D	L	:	V	K	:	n,d,k*
Y	Y	Y	Y	Y	:	Y	Y	Y	Y	:	Y	I	V		:		Y	:	y
Q	Q	Q	Q	Q	:	E	Q	R	Q	:	P	Q	P	S	:	P	E	:	q,e,p,r
					:					:					:			:	
E	E	E	E	E	:	N	E	N	D	E	:	N	N	N	:	N	N	:	n,d,e
M	M	M	M	M	:	M	M	M	M	:	M	M	M	M	:	M	L	:	m
V	V	V	V	V	:	A	V	V	V	:	T	I	I	I	I	V	V	:	v,i,t,a
V	V	V	V	V	:	V	V	V	V	:	V	V	V	V	:	A	T	:	v
E	E	E	E	E	:	D	V	R	E	:	E	E	E	R	K	K	T	:	e,d,r,k,
G	G	G	G	G	:	E	G	A	G	:	S	E	E	S	:	E	H	:	g,a,s,e
C	C	C	C	C	:	C	C	C	C	:	C	C	C	C	:	C	C	:	c
G	G	G	G	G	:	G	G	G	G	:	H	G	G	K	:	G	A	:	g,h
C	C	C	C	C	:	C	C	C	C	:	C	C	C	C	:	C	C	:	c
R	R	R	R	R	:	R	R	H	R	:	R	S	A	S	:	R	I	:	r,h,s,a,



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EUROPEAN SEARCH REPORT

Application Number
EP 01 20 1555

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